Amendments to the Claims:

This listing of claims will replace all prior versions and listings of claims in the application:

Claim 1 (currently amended): A process for impregnating wood or wood based material using acetic anhydride, the process comprising the steps of:

a. preheating a working solution comprising acetic anhydride to a temperature above the atmospheric boiling point of the working solution to form a working solution at a super hot temperature, wherein sufficient pressure is applied throughout the preheating step to ensure substantially all of the ~~entire~~ working solution is maintained in a liquid phase and not vaporized;

b. contacting a wood or wood based material with the working solution at said super hot temperature and at an elevated pressure such that ~~the entire~~ substantially all of the working solution is maintained in the liquid phase and not vaporized, to cause impregnation of the liquid phase solution into the wood or wood based material; and

c. separating the wood or wood based material and any remaining working solution, waste material and/or by-products;

~~wherein the working solution comprises acetic anhydride.~~.

Claim 2 (canceled)

Claim 3 (currently amended): The process as claimed in claim 1 including applying an initial pre-pressure to the wood or wood based material prior to contact with the working solution at the super hot temperature, sufficient to maintain substantially all of the working solution in the liquid phase and prevent it from vaporizing.

Claim 4 (previously presented): The process as claimed in claim 3 including applying the pre-pressure by a gas.

Claim 5 (previously presented): The process as claimed in claim 4 wherein the gas is selected from nitrogen, air, carbon dioxide, argon, acetic acid vapor or acetic anhydride vapor.

Claim 6 (previously presented): The process as claimed in claim 3 including pre-pressurising the working solution to in the range of 10 to 1000 kPa.

Claim 7 (previously presented): The process as claimed in claim 3 including pre-pressurising the working solution to in the range of 20 to 700 kPa.

Claim 8 (previously presented): The process as claimed in claim 1 including assisting the impregnation of the solution into the wood or wood based material by applying a working pressure comprising a further hydraulic or pneumatic pressure.

Claim 9 (previously presented): The process as claimed in claim 8 including applying the working pressure in the range of 20 to 4000 kPa above the initial pre-pressure.

Claim 10 (previously presented): The process as claimed in claim 8 including applying the working pressure in the range of 20 to 2000 kPa above the initial pre-pressure.

Claim 11 (previously presented): The process as claimed in claim 8 including applying the working pressure for less than about 240 minutes.

Claim 12 (previously presented): The process as claimed in claim 8 including applying the working pressure for less than 120 minutes.

Claim 13 (previously presented): The process as claimed in claim 8 including applying the working pressure for between about 1 and about 60 minutes.

Claim 14 (previously presented): The process as claimed in claim 1 including subsequent to

the impregnation, releasing a kickback pressure to separate any remaining working solution, waste material and by-products.

Claim 15 (previously presented): The process as claimed in claim 14 including subsequent to separating the wood or wood based material and any remaining working solution, waste material and/or by-products, releasing pressure to separate the kickback pressure.

Claim 16 (previously presented): The process as claimed in claim 1 including applying a kickback vacuum to separate any remaining working solution, waste material and/or by-products.

Claim 17 (previously presented): The process as claimed in claim 16 including recycling the kickback pressure, the kickback vacuum or both for reuse as the working solution.

Claim 18 (previously presented): The process as claimed in claim 17 including adding further of said working solution to the recycled working solution and reusing same.

Claim 19 (previously presented): The process as claimed in claim 1 wherein the boiling point of the reaction by-products is lower than the boiling point of the working solution.

Claim 20 (previously presented): The process as claimed in claim 1 wherein the wood or wood based material is selected from one or more of solid wood, fibreboard, particle board, wood veneer, wood chips, oriented strand board, laminated veneer board and plywood.

Claim 21 (previously presented): The process according to claim 1 including when carried out in a plant comprising:

a. a first pressure vessel for initially containing and preheating the working solution; and

b. a second pressure vessel for containing and contacting the wood or wood based material with the working solution.

Claim 22 (previously presented): The process as claimed in claim 21 wherein said plant also includes a third pressure vessel as a reservoir for unreacted working solution, waste material and/or by-products, said third pressure vessel communicating with said second pressure vessel.

Claim 23 (previously presented): The process as claimed in claim 1 including pre-heating the working solution to above about 10° C above the atmospheric pressure boiling point of the working solution.

Claim 24 (previously presented): The process as claimed in claim 23 including pre-heating the working solution to in the range of 150 to 250° C.

Claim 25 (previously presented): The process as claimed in claim 23 including pre-heating the working solution to in the range of 160 to 220° C.

Claim 26 (previously presented): The process as claimed in claim 23 including pre-heating the working solution to in the range of 170 to 200° C.

Claim 27 (previously presented): The process as claimed in claim 1 wherein the working solution also comprises xylene and/or succinic acid.

Claim 28 (canceled)

Claim 29 (previously presented): The process as claimed in claim 1 including combining the working solution with a solvent.

Claim 30 (previously presented): The process as claimed in claim 29 wherein the solvent is selected from any one or more of water, isopropanol, methylene chloride, xylene and xylene mixed with paraffin wax.

Claim 31 (currently amended): A process for impregnating wood or wood based material using acetic anhydride, the process comprising the steps of:

a. preheating a working solution comprising acetic anhydride to a temperature above the atmospheric boiling point of the working solution to form a working solution at a super hot temperature, at an elevated pressure sufficient to maintain substantially all of the ~~entire~~ working solution in the liquid phase and not in the vapor phase;

b. applying a pre-pressure to a wood or wood based material prior to contact with the working solution at the super hot temperature, sufficient to maintain substantially all of the ~~entire~~ working solution in the liquid phase and not in the vapor phase;

c. contacting a wood or wood based material with the working solution at a said super hot temperature and a said elevated pressure to cause impregnation of the solution into the wood or wood based material;

d. applying further working pressure to assist the impregnation of the working solution into the wood or wood based material;

e. separating the wood or wood based material and any remaining working solution, waste material and/or by-products; and

f. reducing the pressure to remove any further working solution, waste material and/or by-products~~;~~

~~wherein the working solution comprises acetic anhydride.~~.

Claim 32 (currently amended): A process for impregnating wood or wood based material using acetic anhydride, the process comprising the steps of

a. preheating a working solution comprising acetic anhydride to a temperature above the atmospheric boiling point of the working solution to form a working solution at a super hot temperature, at an elevated pressure sufficient to maintain substantially all of the ~~entire~~ working solution in the liquid phase and not in the vapor phase;

b. contacting a wood or wood based material with the working solution at said super hot temperature and a said elevated pressure to cause impregnation of the solution into the wood or wood based material;

c. separating the wood or wood based material and any remaining working solution, waste material and/or by-products; and

d. recycling any separated working solution, waste material and/or by-products as the working solution;

~~wherein the working solution comprises acetic anhydride.~~

Claim 33 (previously presented): An impregnated wood or wood based material produced according to the process of claim 1.

Claim 34 (new): The process as claimed in claim 1 including preheating the working solution to a temperature of at least 151°.

Claim 35 (new): The process as claimed in claim 31 including preheating the working solution to a temperature of at least 151°C.

Claim 36 (new): The process as claimed in claim 32 including preheating the working solution to a temperature of at least 151°C.

Claim 37 (new): The process according to claim 31 including when carried out in a plant comprising:

a. a first pressure vessel for initially containing and preheating the working solution; and

b. a second pressure vessel for containing and contacting the wood or wood based material with the working solution.

Claim 38 (new): The process according to claim 32 including when carried out in a plant comprising:

a. a first pressure vessel for initially containing and preheating the working solution; and

b. a second pressure vessel for containing and contacting the wood or wood based material with the working solution.

Claim 39 (new): The process according to claim 1 wherein the wood or wood based material is relatively large pieces of wood.

Claim 40 (new): The process according to claim 31 wherein the wood or wood based material is relatively large pieces of wood.

Claim 41 (new): The process according to claim 32 wherein the wood or wood based material is relatively large pieces of wood.